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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,511	07/23/2002	David M. Hoffman	15-CT-6001	6623
23465	7590	05/25/2005	EXAMINER	
JOHN S. BEULICK C/O ARMSTRONG TEASDALE, LLP ONE METROPOLITAN SQUARE SUITE 2600 ST LOUIS, MO 63102-2740			CHURCH, CRAIG E	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/064,511

Applicant(s)

HOFFMAN, DAVID M.

Examiner

Craig E. Church

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 15-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 26-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to support the invention as now claimed. The claim(s) contains subject matter which was not described in the original specification. There is no teaching that the embodiment comprising detectors or scintillators made from materials having different spectral response be combined with energy discriminating filters. In fact lines 6-11 of page 10 of the specification explicitly state that filters are not used with such detectors. This is a new matter rejection, and cancelation of the new matter is required.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (5570403) in view of Hsieh et al (66399654) and either Bjorkholm (4511799) or Pelc (5533080). Yamazaki teaches a dual energy CT scanner comprising a rotating gantry, x-ray tube 10 with means to vary the spectral content of the x-ray beam in the Z direction (figure 16 and lines 19-22 of column 9), plural detector rows 1-2,

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data acquisition means 50, reconstruction processor 60 and display means 70 for showing the spectrally discriminated and combined images. In the system of figures 5 and 6 (lines 49 of column 6 to line 13 of column 7) energy discrimination is provided by scintillators 31 and 32 which have the same absorption characteristics but are of different thicknesses. Lines 14-18 of column 7 explain that the scintillators may be the same thickness, and filters are employed for spectral selection. Lines 22-67 of column 7 discuss use of wedge filters (sloped) between the source and the patient. Figure 15A shows that the filter for detector 2 is air. Lines 29-36 of column 8 reveal that the Kv applied to the x-ray tube may be varied as its focal spot is shifted to favor each detector row. Figures 4A and 12A-12C appear to teach that Yamazaki's source pitch is 1, but this is not explicitly stated. Hsieh discloses a CT system and method comprising an x-ray source 14, x-ray detectors 18, rotating gantry 12 carrying the source and detector and translatable patient support table 16. Lines 1-5 of column 5 explain that a source pitch of 1:1 is used in order to ensure continuity of projection data, and it would have been obvious to employ a source pitch of 1:1 in Yamazaki for the same reason. Yamazaki fails to teach that his detectors or scintillators comprise different materials in order to achieve spectral discrimination. Bjorkholm discloses dual energy x-ray detectors that are made from different materials that are sensitive to different x-ray energies (lines 8-17 of column 7), and Pelc discloses dual energy x-ray detectors that have scintillators that are made from different materials that are sensitive to different x-ray energies (lines 23-28 of column 7), and it would have been obvious to employ the

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Bjorkholm or Pelc detectors in the Yamazaki scanner to avoid the use of costly x-ray filters.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al (5570403) as above. Lines 43-53 of column 9 suggest that more than three detector rows may be used for discriminating more than three subspectra which means that the first and third detector rows (nonadjacent rows) would have different spectral response as per claims 24-28. Yamazaki fails to teach that his detectors or scintillators comprise different materials in order to achieve spectral discrimination. Bjorkholm discloses dual energy x-ray detectors that are made from different materials that are sensitive to different x-ray energies (lines 8-17 of column 7), and Pelc discloses dual energy x-ray detectors that have scintillators that are made from different materials that are sensitive to different x-ray energies (lines 23-28 of column 7), and it would have been obvious to employ the Bjorkholm or Pelc detectors in the Yamazaki scanner to avoid the use of costly x-ray filters.

Any inquiry concerning this communication should be directed to Examiner Craig E. Church at telephone number (571) 272-2488.



**Craig E. Church**  
Primary Examiner